

PROTOCOL-INDEPENDENT PACKET DELINEATION FOR BACKPLANE ARCHITECTURE

ABSTRACT OF THE DISCLOSURE

5 Multiple single-channel links are employed as a single high-bandwidth link for
packetized data having a single packet delineator. The single high-bandwidth link may typically
be employed for transfer of data in intra- and inter-frame/rack back-planes. A transmitter forms
the packetized data including the single packet delineator. The packet delineator is used by, for
example, a framer of a receiver to enable reconstruction of packetized data from the multiple
10 single-channel links. The transmitter forms the packetized data such that a beginning portion of
each packet is transferred to a particular one of the single-channel links. Thus, the packet
delineator is associated with that particular single-channel link, regardless of the number of other
single-channel links that are bonded together with that particular single-channel link to form the
single high-bandwidth link. A single high-bandwidth link, formed in accordance with one or
15 more embodiments of the present invention, significantly reduces the cost per link over prior art
systems, while maintaining relatively similar link quality. The transmitter may ensure that the
packet delineator is associated with a particular single-channel link by inserting inter-packet fill
bits into the packet stream. The total amount of inter-packet fill inserted into the packet steam
between packets is such that the total length of the packet plus inter-packet fill is a number that
20 is wholly divisible by the number of single-channel links.